NAVY ENTERPRISE AIS REGIONAL MAINTENANCE

NAVSEA 04M

10 JUNE 1999

AGENDA

- ERP: WHAT IS IT?
- BACKGROUND
- MISSION NEED
- IMPLEMENTATION PHILOSOPHY
- SCOPE OF PROJECT
- AQUISITION STRATEGY
- SCOPE OF PILOT
- BUSINESS CASE
- FUNDING STRATEGY
- POAM
- OTHER EFFORTS
- BACKUP SLIDES

What is an Enterprise AIS Solution?

A core software system comprised of a single or integrated suite of applications to manage an enterprise business model with the objective of achieving predetermined corporate goals.

- ***Enterprise AIS as a STRATEGIC INVESTMENT***
- ***Supports reduction of Total Ownership Cost***
- ***Improves Readiness and Platform Availability***

ENTERPRISE RESOURCE PLANNING

Definition: A software architecture that facilitates the flow of information between all functions within a company.

Features: Enterprise-wide info system solution.
Enterprise-wide database,
Operating on common platform,
Interacting with an Integrated Set of Applications
Consolidating all business operations in 1 computing environment
Information entered once and only once
Product Manufacturing/Sales Centric

ENTERPRISE ASSET MANAGEMENT

Definition: An ERP style software architecture optimized for
asset maintenance and modernization management; ERP
without MRP

Features: Enterprise-wide info system solution.
Enterprise-wide database,
Operating on common platform,
Interacting with an Integrated Set of Applications
Consolidating all business operations in 1 computing environment
Information entered once and only once
Asset Maintenance Centric

ERP/EAM is a Foundation/Lever for Change

BUT… Initiating and Sustaining Business Process Change is the Ultimate Objective…

NOT IMPLEMENTING SOFTWARE PACKAGE

What It Takes To Implement ERP/EAM

- **Executive commitment**
  - ***VADM NANOS: WE WILL DO THIS TO PROVIDE UNIFORM PROCESSES ACROSS THE ENTERPRISE , SUPPORTING REGIONAL MAINTENANCE AND THE FLEET***
- **Clearly defined business case & objectives**
- **Strong Leadership & project management**
- **Utilization of the best talent - those with a high level of business expertise and ERP/EAM knowledge - full time**
- A successful ERP implementation must be managed as a program of wide-ranging organizational change rather than as a software installation effort. - **Michael Hammer**

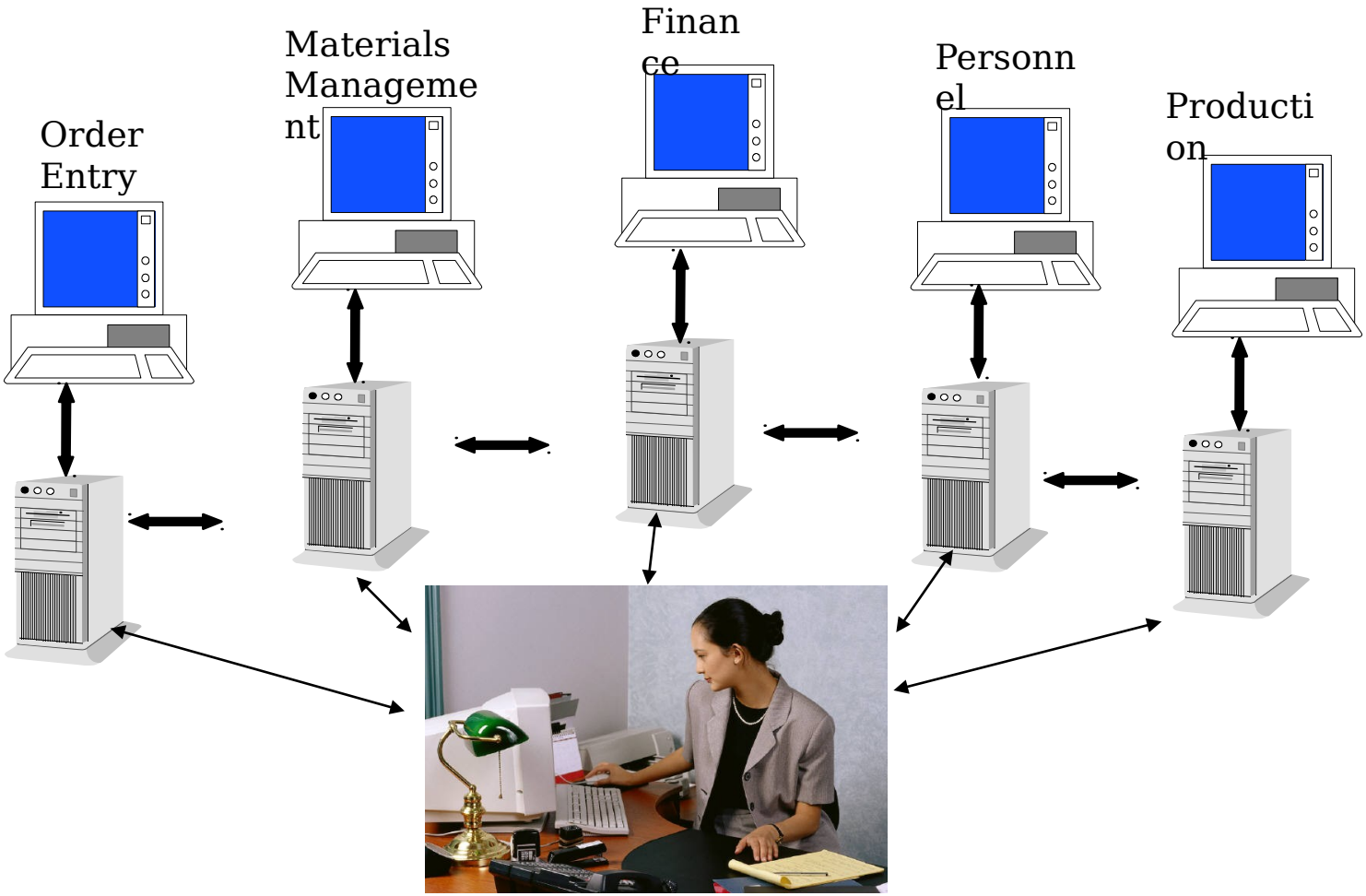
BACKGROUND

- 99+ AIS SYSTEMS IN NAVSEA SUPPORTING FLEET MAINTENANCE AND LOGISTICS
- ANNUAL SYSTEMS MAINTENANCE COST INCREASING
- MANY SYSTEM DESIGNS INFLEXIBLE FOR BUSINESS PROCESS CHANGE
- MULITIPLE DATA BASES WITH SIMILAR INFORMATION
- MAINTENANCE DATA AND COST INFORMATION IS:
  - *LOST*
  - *INCOMPLETE*
  - *NOT VISIBLE TO ALL USERS*
  - *ENTERED AND RE-ENTERED*
- EXISTING SYSTEMS DRIVE INEFFICIENT USE OF RESOURCES
- COTS PRODUCTS ARE 2-5 YEARS AHEAD

BACKGROUND CONT'D

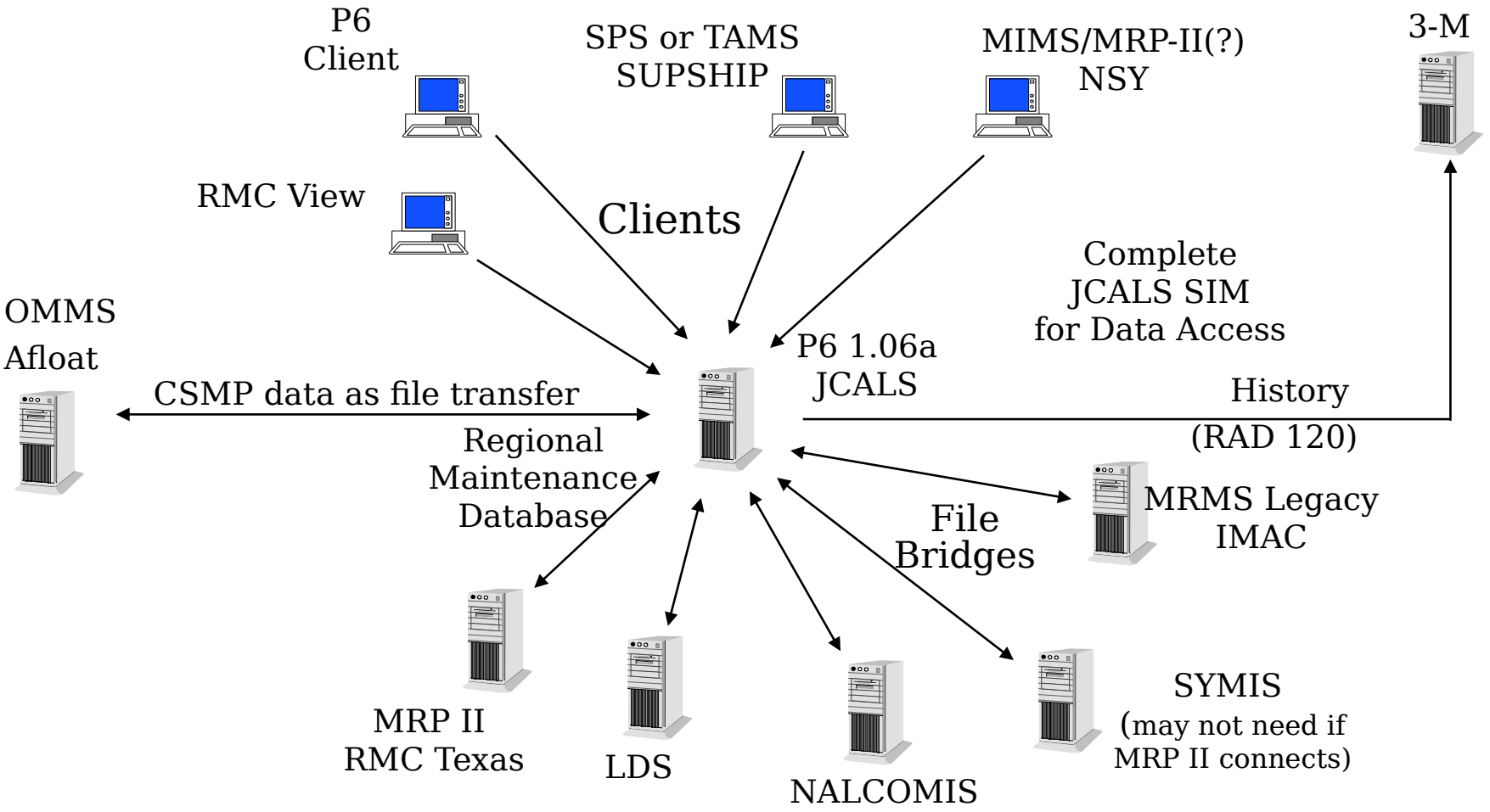
- **MIGRATION STRATEGY**
  - ***MOVE NATIONAL SYSTEMS TO SINGLE DATA ENVIRONMENT - Navy Data Environment (NDE)***
    - **3M, FMP, RMAIS, CDMD, ICMP, MRS**
    - **Completes Feb 00**
- **EXPLORE COTS SOLUTIONS**
  - ***MINCOM ENTERPRISE ASSET MANAGEMENT***
  - ***EXPLORED OTHER COTS ERPs :SAP, ORACLE***
    - **CONCLUDED COTS SOLUTIONS AVAILABLE**
- **JOINED CINCLANTFLT ON PILOT**
- **SOURCES SOUGHT ISSUED 15 MARCH**
  - ***41 RESPONDENTS***

Current Architecture

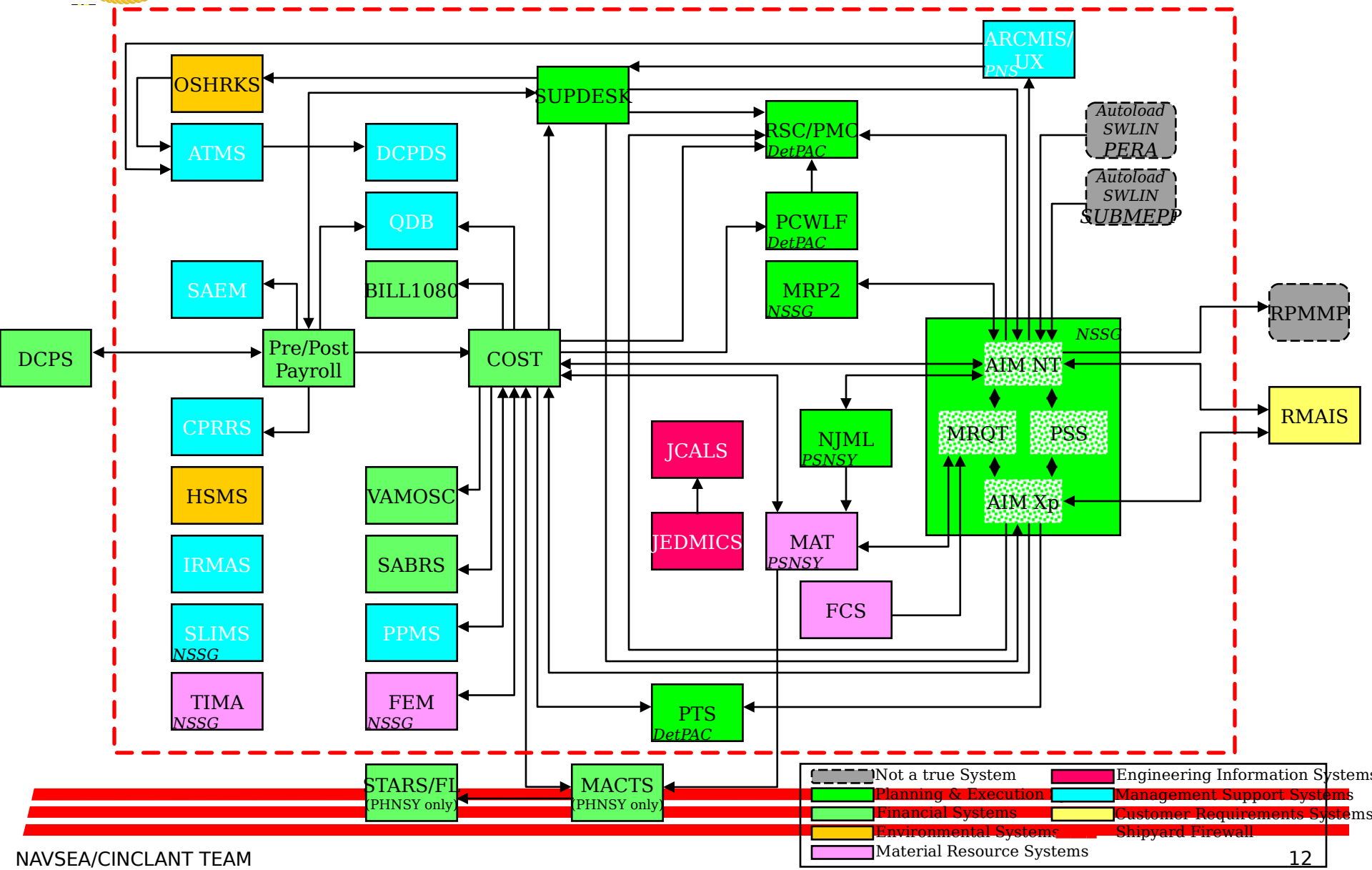


Requires many interfaces and significant data reconciliation

RMAIS Implementation
File Bridges and Interfaces



Shipyard Systems Interfaces Functional Vie



EXAMPLE-MAINTENANCE PORT ENGINEER

- **REGIONAL MAINTENANCE AIS (RMAIS)**
  - ***CURRENT SHIPS MAINTENANCE PROJECT (CSMP)***
  - ***ASSIGNS WORK TO AVAILABILITIES***
  - ***BROKERS AND STATUSES WORK***
- **NOT DIRECTLY AVAILABLE INSIDE RMAIS**
  - ***INTEGRATED CLASS MAINTENANCE PLAN***
  - ***FMP, ALTERATION INSTALLATION PLANNING SYSTEM (AIPS)/GENERIC ALTERATION INSTALLATION TEAMS SCHEDULER (GAITS)***
  - ***TECHNICAL MANUALS AND DRAWINGS***
  - ***MAINTENANCE HISTORY***
  - ***CONDITION ASSESSMENT DATA***
  - ***BUDGET AND FINANCE***
  - ***CAPTURE OF DEFERRED WORK***

Mission Need

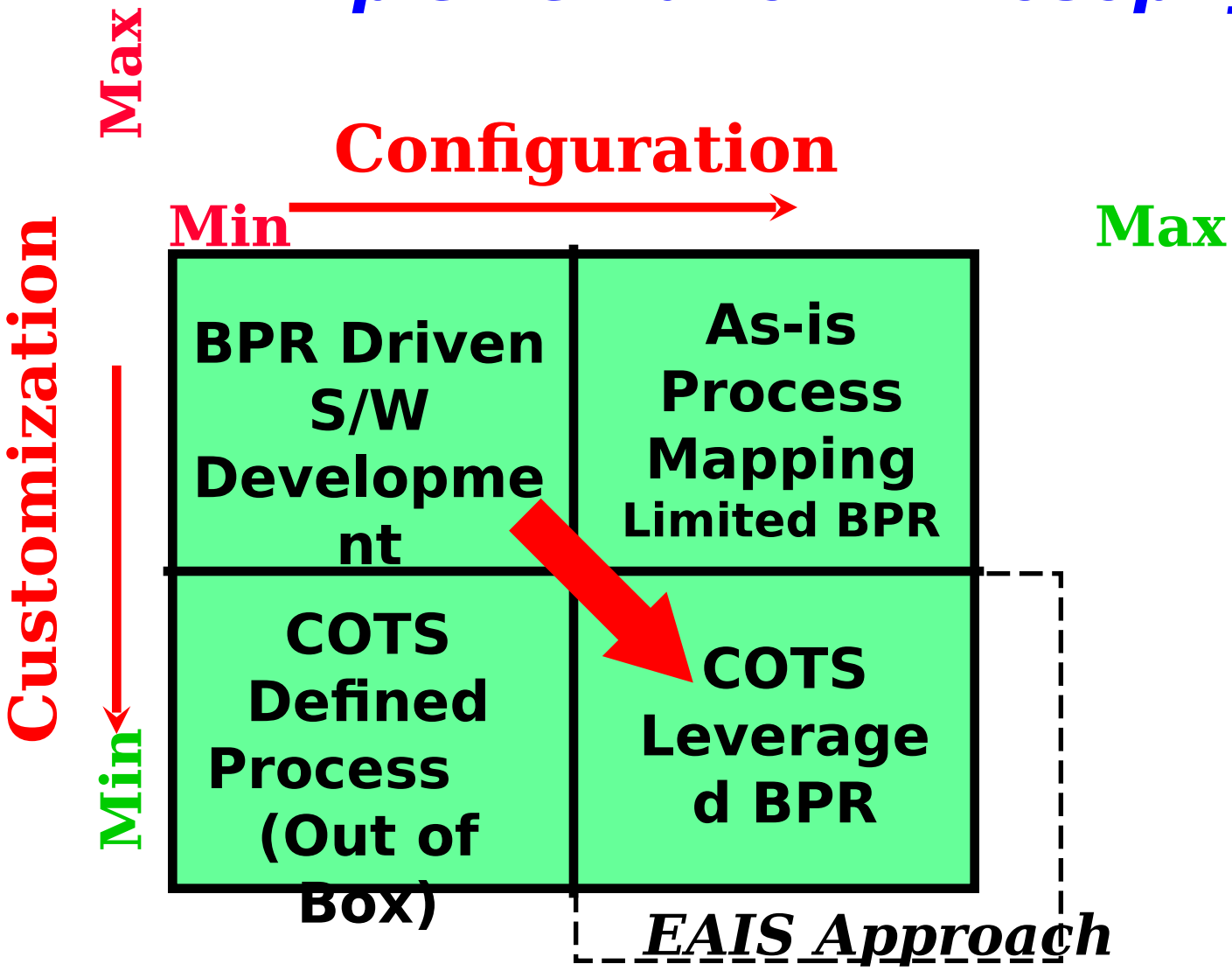
A Navy Enterprise Information System solution that provides visibility of critical resources and enables re-engineering of platform life cycle support business processes. The end state is a reduction of total ownership cost.

(Source: Draft Mission Need Statement)

SINGLE MAINTENANCE AIS

- **Purpose**
  - ***Capture all Maintenance data***
  - ***Enter data once, provide to all Navy***
  - ***On line performance metrics***
  - ***Reduce cost of automated information system ownership and operation***
  - ***Improve business processes***
  - ***Improve the efficiency of our employees***
  - ***Manage the business with fewer information systems***
    - **Reduce from over 131 to one plus an integrated few**

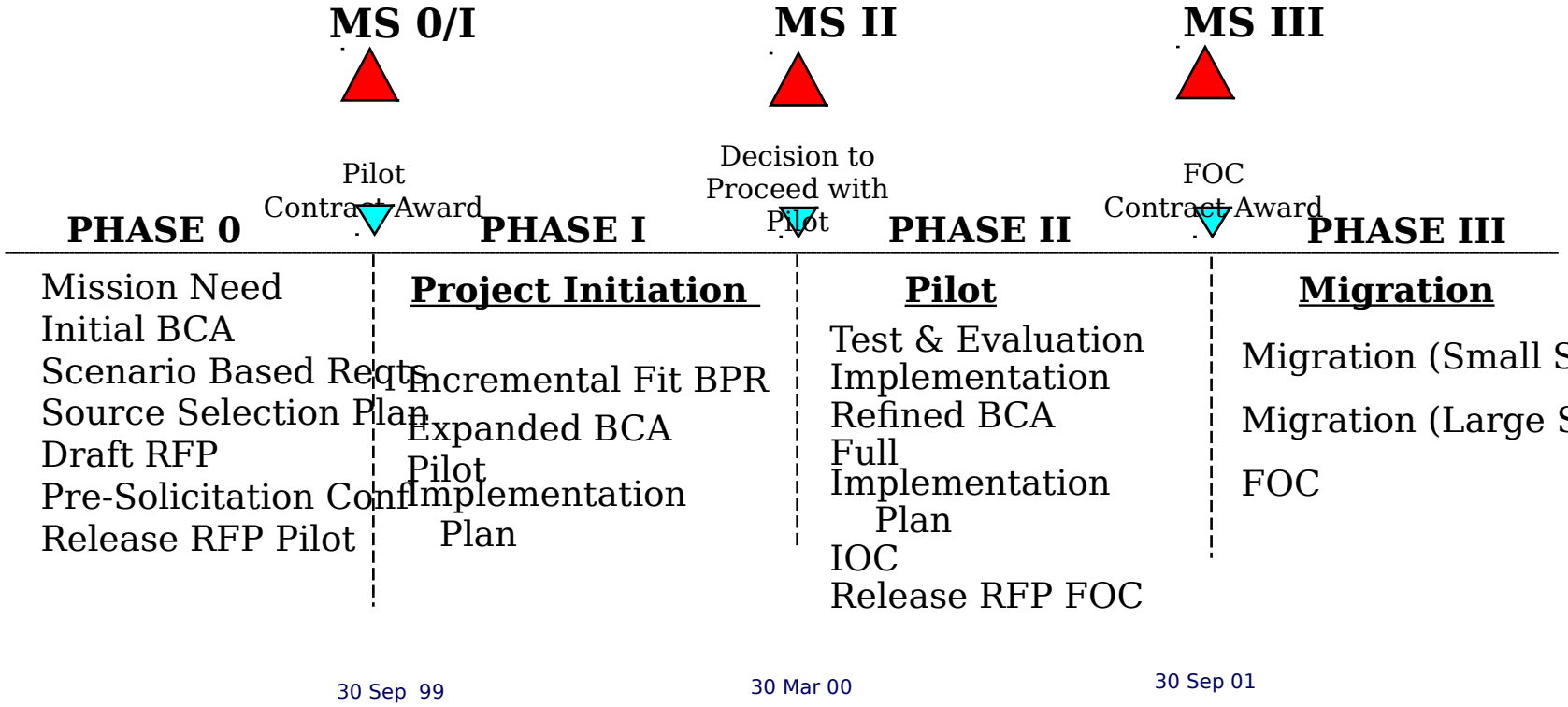
COTS Implementation Philosophy



INITIAL SCOPE OF PROJECT

- **NAVY MAINTENANCE AS FOCAL POINT**
  - ***ACTIVITY***
    - **REGIONAL MAINTENANCE CENTERS**
    - **NAVAL SHIPYARDS**
    - **SUPSHIP**
    - **IMA**
    - **SHIPBOARD**
  - ***LEGACY SYSTEM REPLACEMENT***
    - **99+ SYSTEMS**
    - **INCLUDES NATIONAL SYSTEMS**
      - ***RMAIS, 3M, CDMD-O/A, FMPMIS, BAIM, MRMS***

TIMELINE
(Regional Maintenance: POA&M)



BCA - Business Case Analysis
RFP - Request for Proposal
BPR - Business Process Reengineering
IOC - Initial Operational Capability
FOC - Full Operational Capability

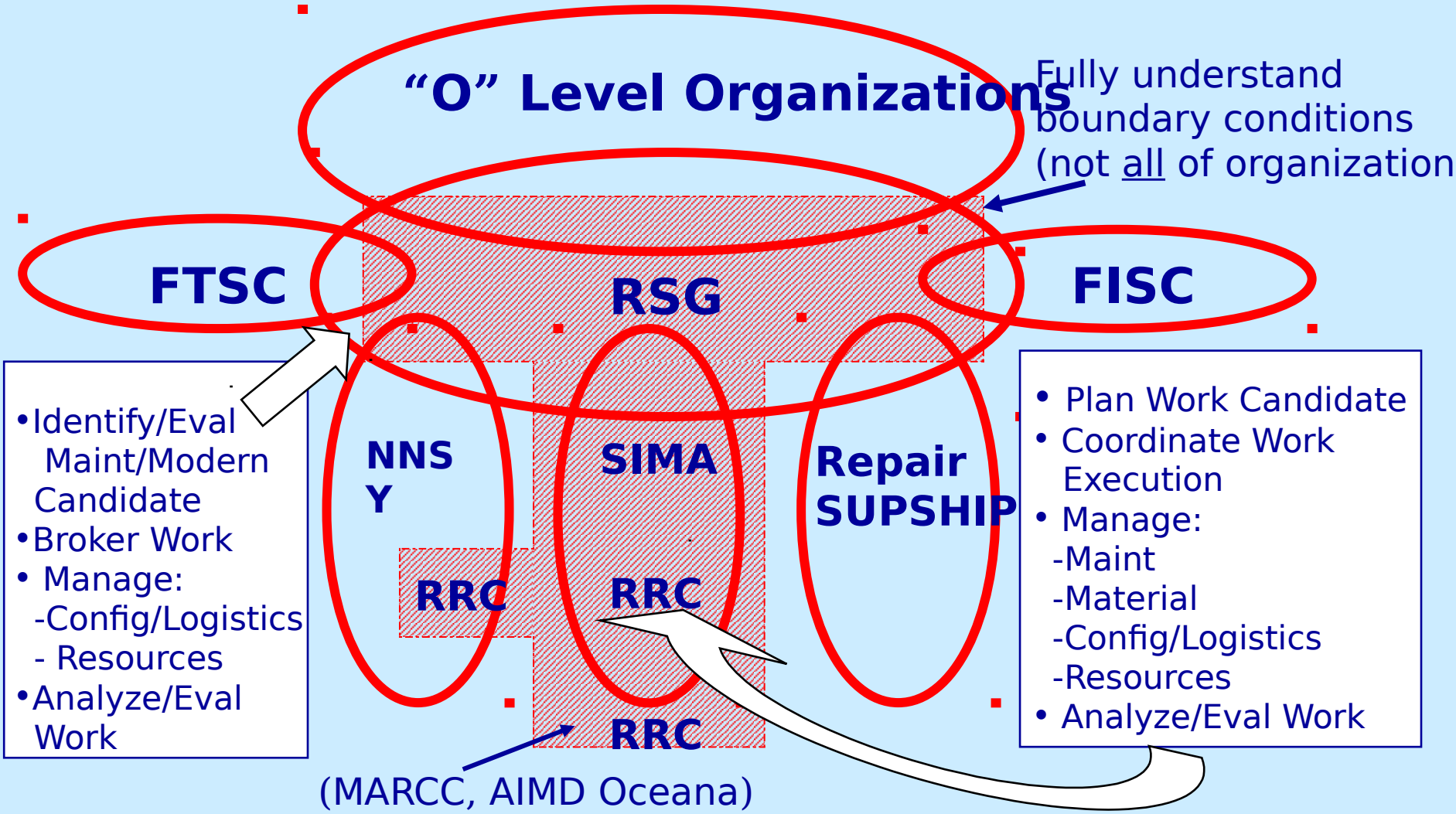
NORFOLK Pilot - Purpose

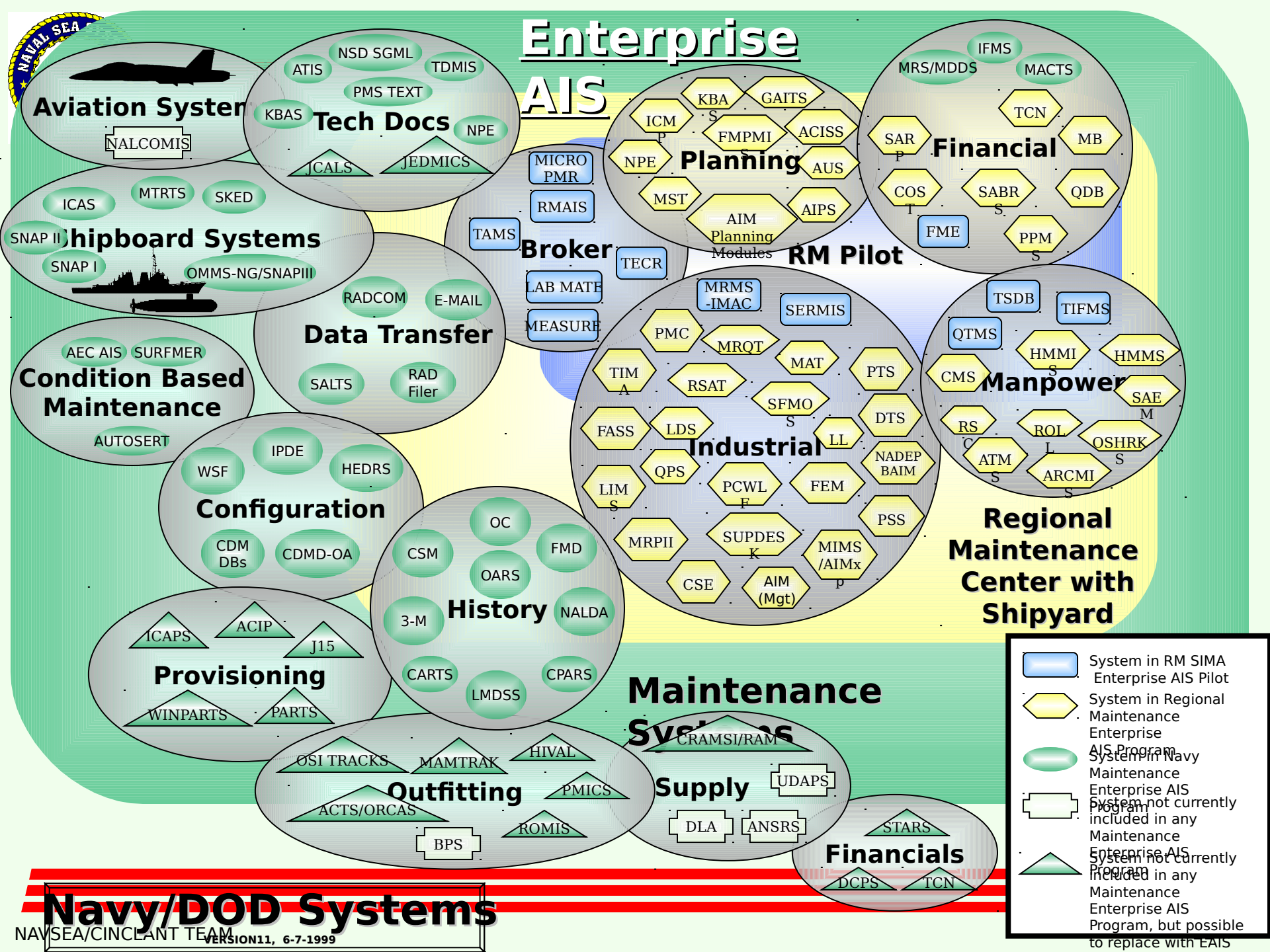
- Re-engineer processes
- Manage change
- Validate technical architecture
- Support training plan development
- Mitigate risk
- Exercise Software O&M
- Quantify costs and benefits for the BCA
- Stepping board for the Enterprise solution

SCOPE OF PILOT

- **ACTIVITY**
  - ***SIMA NORFOLK, RSG, RMCs, PHASED DEPOT***
- **FUNCTIONALITY**
  - **CONFIGURATION, MAINTENANCE MANAGEMENT**
  - **WORK BROKERING, PLANNING, ESTIMATING**
  - **PRODUCTION AND PROJECT PLANNING, SCHEDULING AND CONTROL**
  - **WORKFORCE MANAGEMENT**
  - **MATERIAL ORDERING, TRACKING, AND SITE INVENTORY**
  - **FINANCIAL MANAGEMENT**
  - **ALL ASSOCIATED LEGACY SYSTEMS**

SCOPE OF PILOT



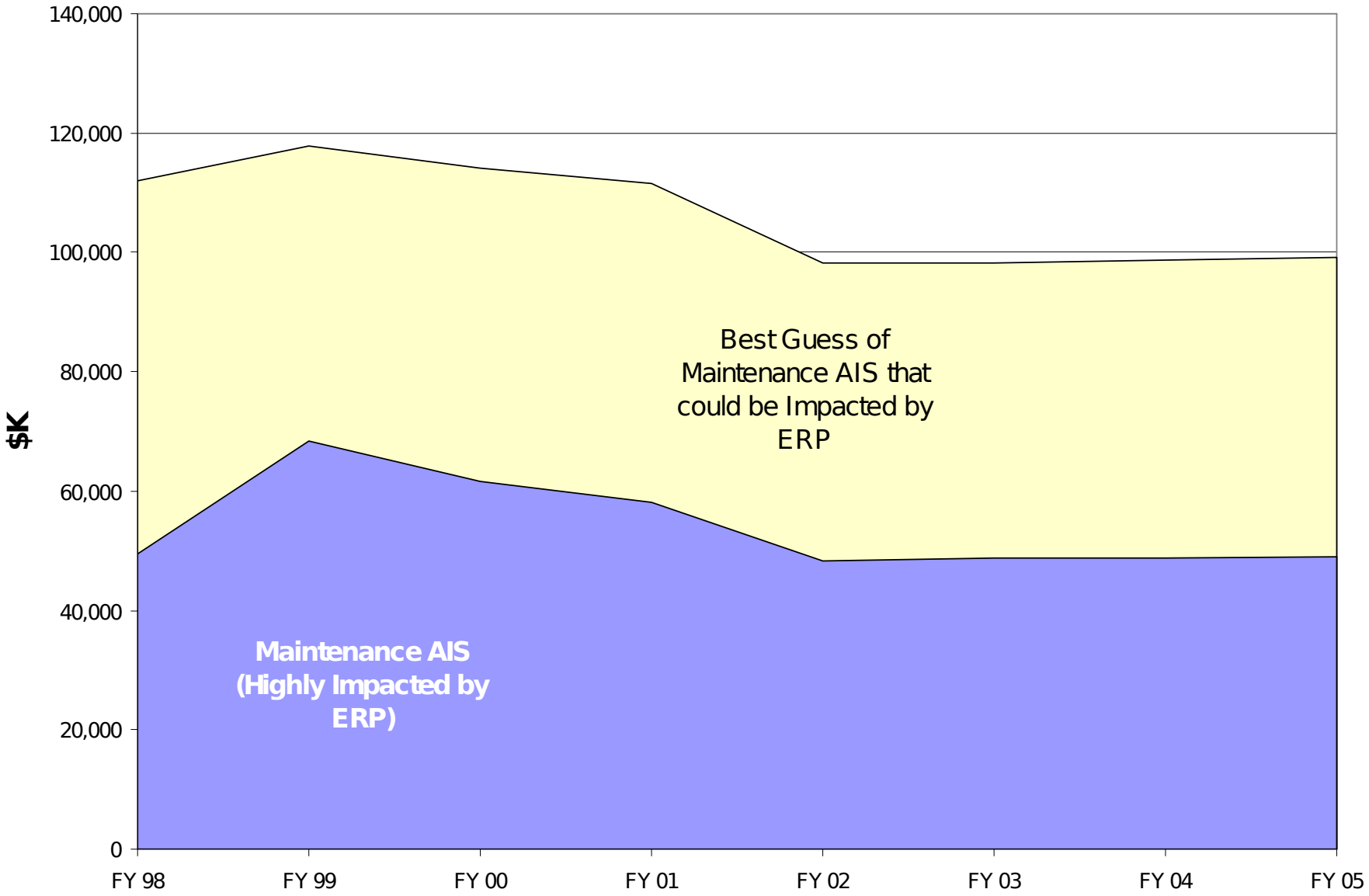

Enterprise AIS
Aviation System
NALCOMIS
NSD SGML
ATIS
TDMIS
PMS TEXT
KBAS
Tech Docs
NPE
JCALS
JEDMICS
ICAS
MTRTS
SKED
SNAP II
Shipboard Systems
SNAP I
OMMS-NG/SNAPIII
MICRO PMR
RMAIS
TAMS
Broker
TECR
LAB MATE
MEASURE
KBAS
GAITS
ICMP
FMPMIS
ACISS
NPE
Planning
AUS
MST
AIM Planning Modules
AIPS
RM Pilot
IFMS
MRS/MDDS
MACTS
TCN
SARP
Financial
MB
COST
SABRS
QDB
FME
PPMS
RADCOM
E-MAIL
Data Transfer
SALTS
RAD Filer
AEC AIS
SURFMER
Condition Based Maintenance
AUTOSERT
MRMS -IMAC
SERMIS
PMC
MRQT
MAT
PTS
TIMA
RSAT
SFMOS
DTS
FASS
LDS
LL
Industrial
NADEP BAIM
QPS
PCWLF
FEM
LIMS
PSS
MRPII
SUPDESK
MIMS /AIMxp
CSE
AIM (Mgt)
TSDB
TIFMS
QTMS
HMMIS
HMMS
CMS
Manpower
SAEM
RSC
ROLL
OSHRKS
ATMS
ARCMIS
Regional Maintenance Center with Shipyard
IPDE
WSF
HEDRS
Configuration
CDM DBs
CDMD-OA
OC
CSM
FMD
OARS
History
3-M
NALDA
CARTS
CPARS
LMDSS
ICAPS
ACIP
J15
Provisioning
WINPARTS
PARTS
Maintenance Systems
OSI TRACKS
MAMTRAK
HIVAL
Outfitting
PMICS
ACTS/ORCAS
ROMIS
BPS
CRAMSI/RAM
UDAPS
Supply
DLA
ANSRS
STARS
Financials
DCPS
TCN
System in RM SIMA Enterprise AIS Pilot
System in Regional Maintenance Enterprise AIS Program
System in Navy Maintenance Enterprise AIS Program
System not currently included in any Maintenance Enterprise AIS Program
System not currently included in any Maintenance Enterprise AIS Program, but possible to replace with EAIS
Navy/DOD Systems
NAVSEA/CINCLANT TEAM
VERSION11, 6-7-1999

BUSINESS CASE

THREE MAJOR AREAS OF FOCUS

- ***AIS COSTS AND SAVINGS***
  - **IT INFRASTRUCTURE BUDGETS AS BASELINE**
  - **STATEGY TO TURN OFF LEGACY SYSTEMS AS ENTERPRISE SOFTWARE DEPLOYED**
  - **COST OF ENTERPRISE SOFTWARE CURRENTLY BASED ON GSA SCHEDULES AND INDUSTRY AVERAGES**
- ***IMA AND DEPOT COSTS AND SAVINGS***
  - **EXISTING METRICS (MANHOURS, THROUGHPUT, ETC) WILL BE USED TO CAPTURE PILOT IMPROVEMENTS**
  - **INDUSTRY EXPERIENCE ROI RANGES 6-25%**
- ***TOTAL OWNERSHIP COST IMPROVEMENTS***
  - **ANALYZE NATIONAL SYSTEMS IN SUPPORT OF MAINTENANCE MANAGEMENT FOR TANGIBLE AND INTANGIBLE BENEFITS**

"AS IS" Enterprise Baseline
AIS Budget that will be Influenced by ERP



Funding Strategy

- **FY 99 Pilot Contract**
  - ***Total Value estimated at $39M***
    - **$9M for Mission funded portion of Pilot**
      - ***commence early FY 00***
      - ***Funding needed FY 99 to award contract***
      - ***Funded via NAVSEA and CLF in-house dollars***
    - **$30M for Working capitol funded portion of pilot**
      - ***Seed funding commence FY 00***
      - ***Funding via NSY NWCF***
    - **WILL INCLUDE OPTION FOR ENTERPRISE LICENSE PURCHASE**
  - ***Follow on contract in late FY 01/ early FY 02 for full deployment across Navy***
    - **Funded via CINC/CNO sponsored line**

PLAN OF ACTION

- **MAJOR MILESTONES**

  Develop scenario scripts 5/30/99

  Complete SOW 6/15/99

  Issue RFP 6/30/99

  Proposal Received 7/16/99

  Technical Evaluation of RFP responses 7/30/99

  Source Selection 8/30/99

  Award 9/27/99

STATUS

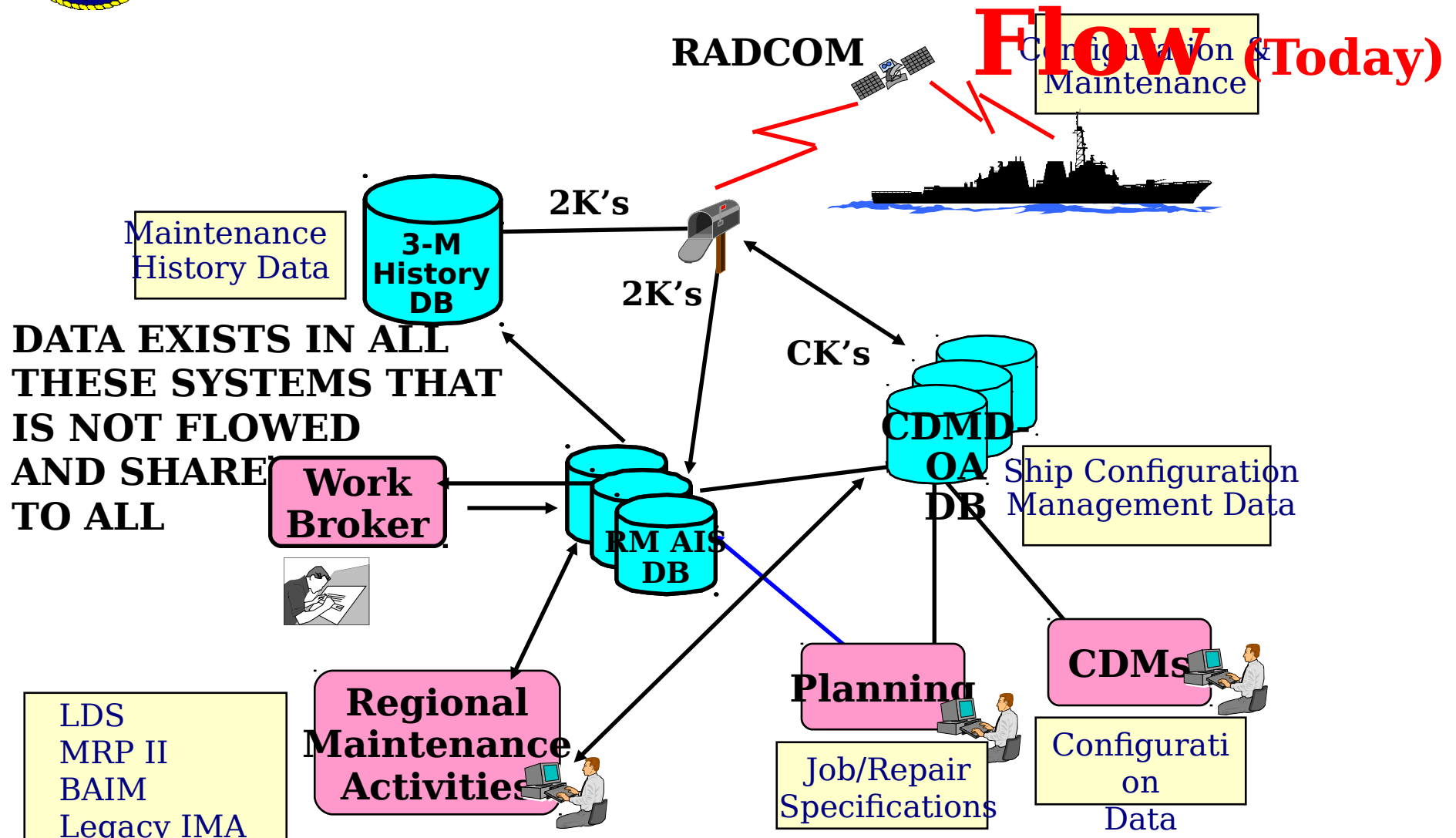
- **Sources Sought issued 15 March**
  - ***41 respondents***
- **Requirements**
  - ***Top level business rules drafted***
  - ***Detail requirements and scripted scenarios working***
- **Business Case**
  - ***AIS infrastructure plan/budgets mapped to DOD IT acquisition work breakdown structure***
  - ***Business process improvements approach being developed***
- **Acquisition strategy**
  - ***Mission Needs Statement drafted***
  - ***Source selection plan outlined***
- **Remain on tight timeline for FY99 award**

OTHER INITIATIVES

- **VADM LOCKARD RBA**
  - ***Six pilots***
- **PARTNER WITH INDUSTRY**
  - ***Contracted logistics support***
  - ***LPD 17 integrated product data model***
- **NEWPORT NEWS ERP**
  - ***Major business process re-engineering***
  - ***ERP tied to CAD***
  - ***New construction initially***

Back-up Slides

Maintenance Data Flow (Today)

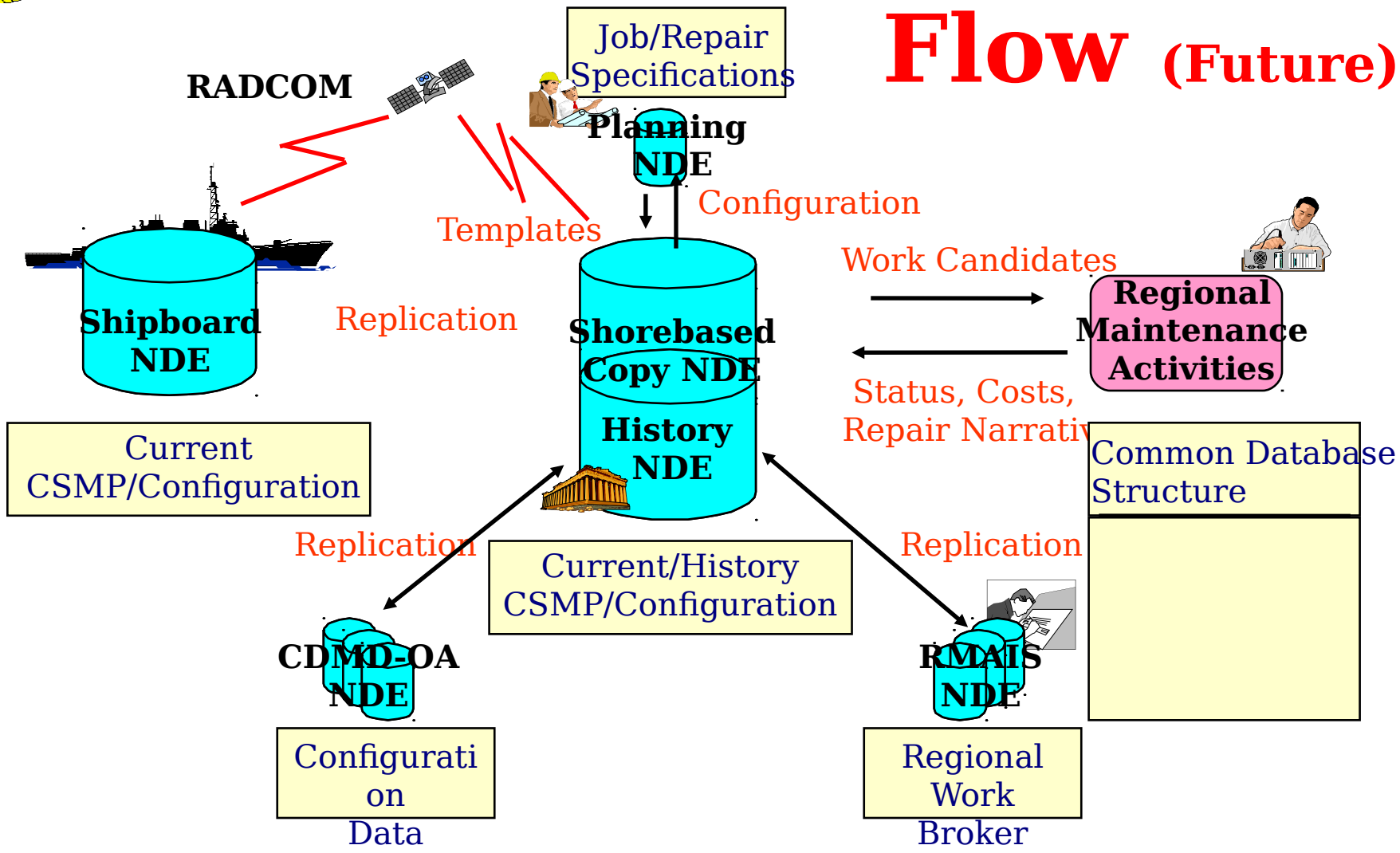


INCOMPLETE MAINT DATA CAPTURE

FUTURE STATE

- **NAVY SYSTEM WITH ONE INTEGRATED TOOL SET**
  - ***NAVY DATA ENVIRONMENT (NDE) :ALL DATA CAPTURED - AVAILABLE TO ALL NAVY***
  - ***ON LINE PERFORMANCE METRICS***
- **OPERATING SYSTEMS/HARDWARE NOT A CONSTRAINT ON CHANGE**
- **USER INTERFACE EASILY MODIFIED TO ACCOMODATE BUSINESS PROCESS DIFFERENCES AND CHANGES**
- **COTS SOFTWARE**
- **USER INFLUENCE OVER COTS DIRECTION**
- **REDUCED COST OF AIS OWNERSHIP/OPERATION**
- **COST OF SHIP MAINTENANCE CAPTURED/VISIBLE**

Maintenance Data Flow (Future)



Navy Data Environment (NDE)

COTS CONSIDERATIONS

- **GAP ANALYSIS**
  - ***PRODUCT MUST FIT BUSINESS MODEL***
  - ***BEST FIT OF PRODUCT TO OUR PROCESSES***
    - **GAPS REQUIRE PROCESS OR PRODUCT CHANGE**
    - **COMMERCIAL EXPERIENCE SUGGESTS YOU DON'T CHANGE THE PRODUCT WITHOUT CAREFUL LIFECYLE CONSIDERATIONS**
- **PRODUCT SUITES SHOULD BE MATURE**
  - ***IN USE BY BUSINESSES OF COMPARABLE SIZE***
  - ***AVOID SUITES CURRENTLY BEING INTERGRATED FOR THE FIRST TIME OR BECOMING THE BETA TEST***
- **IMPLEMENTATION COST WILL BE MULTIPLES OF THE INITIAL LICENSE COST**

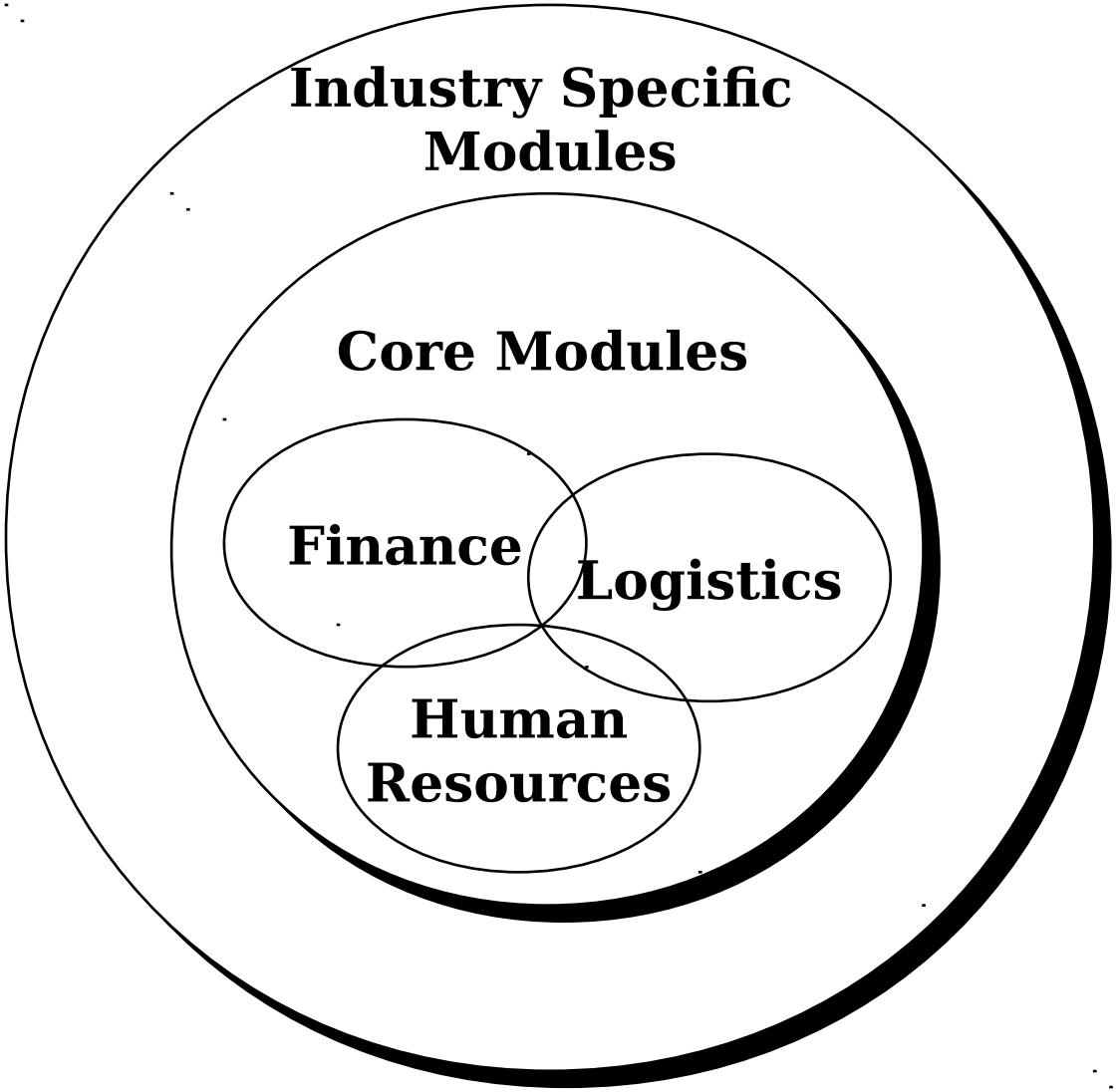
ERM/EAM cont'd

- **BEST OF BREED**
  - ***SELECT BEST FINANCIAL, HR, SUPPLY CHAIN, PROJECT MANAGEMENT ,ETC***
  - ***INTEGRATE FOR TOTAL SOLUTION***
- **SINGLE SOLUTION**
  - ***SELECT BEST FIT TO CORE BUSINESS***
  - ***BOLT ON 3RD PARTY FOR FULL FUNCTIONALITY***
- **INTEGRATORS USED EXTENSIVELY**
- **MAJOR SAVINGS COMES FROM STANDARDIZATION OF BUSINESS PROCESSES**

ERP/EAM INFO AND EXPECTATIONS

- **COMMON THREAD: ENTER DATA ONCE , SHARED BY ALL**
- **ERP'S GROWN FROM FINANCIAL OR HUMAN RESOURCE AREAS**
- **EAM'S GROWN FROM ASSET INTENSE INDUSTRIES. MAINTENANCE/REPAIR/OVERHAUL (MRO) SOFTWARE**
- **THERE IS NO ERP/EAM THAT WILL DO IT ALL**
  - ***ALL HAVE 3RD PARTY INTERFACES***
  - ***KEY LEGACY SYSTEMS ARE USUALLY RETAINED***
- **MOST ERP PROJECTS ARE OVER BUDGET**

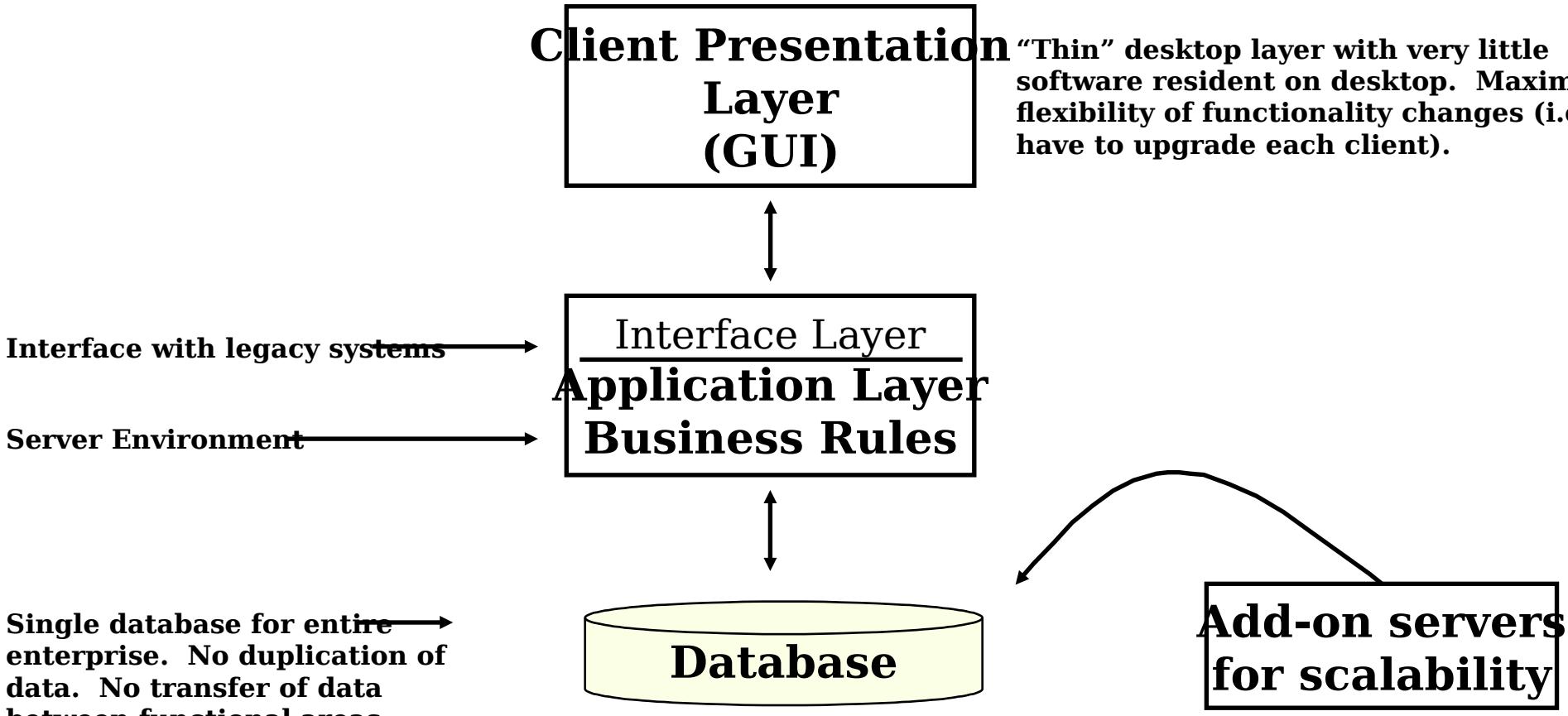
Typical Enterprise System Modules



ENTERPRISE ASSET MANAGEMENT vs ENTERPRISE RESOURCE PLANNING

ASPECT	ERP CENTRIC	EAM CENTRIC
Purchasing	Small #items, large volume, few vendors	Large #parts, small volume, many vendors
Inventory	Design for raw matl recpt, issue, WIP track, product storage	Design for stores & consumables, jobs trigger on invent, issues charged to jobs
Contracted Services	Outsourced labor, charged to production, product	Element in maint crit path, modeled as part of process, cost against job
Work Management	Ship floor control model, document centric, limited flexibility, workflow tied to material	Tied to activity and approval process, configurable, labor availability primary driver
Asset History	Based on fixed systems with minimal rotables, generally asset based	Based on inclusion of rotables, storage and analysis capability by both asset and location history

Typical 3 - Tier Architecture


Client Presentation Layer (GUI)
"Thin" desktop layer with very little software resident on desktop. Maxim flexibility of functionality changes (i.e have to upgrade each client).
Interface Layer
Application Layer
Business Rules
Interface with legacy systems
Server Environment
Single database for entire enterprise. No duplication of data. No transfer of data between functional areas.
Database
Add-on servers for scalability